Review of: "Investigation and Synthesis of Benzothiazole-Derived Schiff Base Ligand Against Mycobacterium tuberculosis"

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Potential competing interests: No potential competing interests to declare.

The manuscript entitled "Investigation and Synthesis of Benzothiazole-Derived Schiff Base Ligand Against Mycobacterium tuberculosis" describes the synthesis of Schiff bases. The manuscript can be accepted after making the following amendments.

Abstract

1. The first sentence is grammatically incorrect. It should be like this, "Tuberculosis (TB) is a critical issue for medical professionals."
2. The 2nd sentence is lacking complete structure and doesn't make any sense about synthesis and application. Is this the synthesis of heteroatoms or the ligand mentioned afterward? Also, mention the subject who is doing the synthesis or write this sentence in passive form.
3. In the 3rd sentence, "Synthesis of the aliphatic or aromatic amine reacts with an active carbonyl compound (aldehyde or ketone) by nucleophilic addition…." How can synthesis react? It should be "Synthesis begins by a nucleophilic addition reaction in which an aliphatic or aromatic amine reacts with an active carbonyl compound to form a hemiaminal solution, followed by an elimination reaction in which C=N (an imine) is formed along with the removal of a water molecule.
4. The 4th sentence, "Reaction in ethanol…" Should be as "Reaction was carried out in ethanol..."
5. The second last and last sentences of the abstract should be written as, "The synthesis of the MTA Schiff base ligand gave a significant yield of 86%.

Introduction

1. The 1st sentence should be written in the past tense. Remove the word "but" from the start of the 2nd sentence.
2. Make a relation between the 3rd and 4th sentences.
3. In line 6, the last sentence should be as, "Therefore, effective strategies are required for treating and controlling the disease and to solve the problems related to this drug resistance as soon as possible."
4. In the sentence just after reference #10, give a reason for the need for a less toxic and cheaper method by justifying that previously developed methods are toxic and expensive. Also, mention how your product will address these issues.
5. Remove the word "additionally" from the third last sentence of page #2.

6. In the first line of page #3, the word “anti-inflammatory” is written 2 times, so remove one.
7. On page #3, in the first paragraph, the last and the third last sentences are exactly the same and are incomplete. So complete the sentence and do not repeat it.
8. In line #3 of the last paragraph of the introduction, do not confuse percent yield with production rate, as 86% is the yield, not the production rate of synthesis.
9. In line #5 of this last paragraph, explain the sentence given, “For this reason, he is not recognized in the department.”

Experimental method

1. On page #4, line #3, the incomplete sentence, “Seven hours at…” should be written as, “The reaction mixture was refluxed for seven hours at 65°C.”

FT-IR and UV-Vis spectroscopy Characterization

1. Use the word “band” instead of “peak” for FTIR spectra.
2. The first sentence should be written as, “The MTA Schiff base ligand was analyzed using FTIR spectroscopy.”
3. In line 5, complete the sentence given, “Demonstrates another peak at 3600 cm^{1} approximately.” And explain the bond that is showing this band on 3600 cm^{-1}. Also, complete the next sentence after this.
4. The last sentence of this topic should be written as, “The MTA Schiff base ligand shows three absorption bands that are allocated to the π-π/ π-π* transitions of the aromatic rings in it.”

Adsorption Distribution Metabolism Excretion (ADME) prediction

1. Complete the first sentence of this section as it is incomplete.

Conclusion

1. The second & third lines of the conclusion should be completed and written as, “Characterization of MTA Schiff base ligands was done by using various spectroscopic techniques. The MTA ligand contains nitrogen and sulfur atoms.”
2. In the 5^{th} line of this section, assign each electronic transition properly.
3. In the 7^{th} line, remove the article “an” before eight-proton signals.
4. Rewrite the second last sentence of this section so that it conveys a clear meaning.